CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 81-65

WASTE DISCHARGE REQUIREMENTS

CHEVRON CHEMICAL COMPANY
RICHMOND, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. Chevron Chemical Company, Agricultural Chemicals Division and Fertilizer Division, hereinafter called the discharger, owns and operates a facility in Richmond, Contra Costa County (Attachment A) which manufactures and distributes a variety of pesticides and fertilizers. The discharger filed a Report of Waste Discharge dated September 4, 1981 for the on-site disposal of wastes from facility manufacturing processes. Recent data on quantity and quality of the waste streams to the pond system and pond water balance data for the 1981-82 rainy season were also submitted. The facility shall be defined as the entire manufacturing and pond complex, and the site shall be defined as the pond complex, only.

2. The Board previously adopted an NPDES Permit for this facility which regulates the discharge of wastewater to San Pablo Bay.

3. The Board, on May 20, 1980, adopted Cease and Desist Order No. 80-27 which required the discharger to achieve compliance with waste containment requirements by October 1, 1981. At their July 15, 1981 meeting, the Board stated its intent to consider modification of that Order to allow extension of the completion date.

4. The facility's disposal areas (specific disposal areas are hereinafter called areas) are shown on Attachment B to this Order and include:

   Area A: Difolatan ponds:

   Evaporation ponds 1E, 1W, 2, 3A and the BA (bioaeration) pond total about 45 acres and are used for treatment and disposal of Difolatan wastewater. Average process input is about 50 gpm of wastewater containing primarily sodium salts and Difolatan intermediates (THPA, THPI) with trace amounts of Difolatan (a fungicide) and solvents.

Area B: Pesticide ponds

Ponds A, B, and 3B occupy about 11 acres and are used for disposal of pesticide process wastewater. Average process wastewater flow is about 1.5 gpm and contains salts, some heavy metals and pesticides.

Area C: Fertilizer ponds

Recycle, evaporation and borrow ponds cover about 21 acres. The average fertilizer process flow is about 15 gpm. Water in these ponds contains dilute product and may be reclaimed; however, its characteristics as a waste must be considered since it has the potential to migrate from the site and adversely affect usable surface or ground waters. Fertilizer process water contains ammonium salts primarily chlorides, sulfates and nitrates.

Area D: Storm water

West Pond covers about 11 acres and receives rainwater runoff from the agricultural chemical manufacturing areas. Ponds 1W, 2 and 3A may also be used to contain storm runoff, as required. Constituents of stormwater runoff are a combination of the materials found in the process waste streams from the different manufacturing areas but at lower concentrations.

Area E: Spill pond

An emergency spill pond of about one acre is available for spill containment.

Area F: Solid wastes

About 13000 cubic yards of bottoms from an old evaporation pond, which no longer exists, were disposed of in the areas indicated on Attachment B.

5. A storm water surge pond located on the east side of Castro Street covers 1.5 acres and receives storm water runoff from the Pesticides, Difolatan and Chemical Processing Plant areas. These areas are transfer stations, process areas, storage and loading areas, and contaminated roof tops. Discharge from this pond to waters of the State is permitted by an NPDES permit during periods of high intensity rainfall. Normal operation of the pond minimizes standing water and requires it to be pumped to West Pond in the evaporation pond system. Therefore, because of its small size, intermittant use and operational procedures this storm water surge pond in its existing condition should not pose a significant adverse threat to ground or surface waters.

6. The discharger submitted a report titled "Ground Water and Subsurface Conditions Investigations" for its facility dated October 29, 1980. Earlier reports on construction of modified clay dikes have been submitted as well as data from the resampling of monitoring wells.

   The ground water report for the discharger's facility indicates that the waste disposal sites listed in Finding 4, above, overlie 100 to 370 feet of sediments which overlie bedrock. The sediments consist primarily of clay with coarser-grained layers which act as water-bearing zones. The top two water-bearing zones are not usable because of high salt content: the first zone containing usable water is at a depth of approximately 100 feet. The clay layers above the usable water-bearing zones have permeabilities on the order of 10^{-7} cm/sec or less. The report indicates that the water-bearing zones, with the exception of the uppermost zone, are confined. Therefore vertical waste containment, is provided by the relatively impermeable clays between the first and second water-bearing zones at the site in addition to the existing artesion conditions of the confined water-bearing zones.

7. The reports described in Finding 6 also indicates that from September 1973 to September 1974 the dikes along the south and west sides of the fertilizer pond, the west side of the recycle pond, and the south side of the spill pond and pond 1W had been modified using a clay cut-off wall. Data taken during the installation showed that permeabilities of these improvements are about 10^{-7} cm/sec.

   The discharger proposes to provide lateral containment around the remainder of the site with an Aspemix cut-off wall, a portion of which has previously been installed along the south, west and north sides of West Pond, and which would be tied into the impermeable clays underlying the site. Aspemix is a mixture of asphalt emulsion, sand, cement and water and has been demonstrated in a variety of uses to provide an impermeable barrier to water. Its use for waste containment has only recently been initiated. The discharger has tested the ability of the Aspemix to contain the wastes to be handled at this facility and has found that the Aspemix did not lose its ability to provide containment over a short period (approximately one year). When compared to the life of the site, however, the long-term ability of Aspemix to provide waste containment for this site has not been proven.

   Based on the above, it appears that Aspemix may be capable of providing lateral waste containment; however, if it is installed, more intensive site monitoring than that which would be specified if a more conventional containment was constructed and long-term laboratory testing by the discharger will be necessary to assure that Aspemix will provide waste containment during the life of the site.

Acceptance of Aspemix for use in providing lateral waste containment is with the understanding that if laboratory testing or site monitoring indicates waste containment is not being provided by the Aspemix cut off wall, the discharger will be required to re-evaluate the ability of the Aspemix cut off wall to provide lateral containment. It will be the discharger's responsibility to maintain lateral containment by the use of a viable Aspemix cut off wall or alternate means as long as utilization of the site as described in Finding 4 is proposed.

8. The report described in Finding 6 also determined that ground water contamination exists in the upper water-bearing zones within the plant property but did not identify the extent of contamination or determine ground water quality beyond the discharger's property. The data collected to date does not address the question of migration of this contamination which may have adversely affected surface or ground water beyond the site boundary. Therefore it will be necessary to review all available data on surface ground water quality surrounding the site and possibly complete a study to define water quality and the extent of possible contamination.

9. Subsequent to modifications required to comply with this Order, the disposal areas listed in Finding 4 above, will meet the requirements for Class II-1 disposal sites as specified in the California Administrative Code, Title 23, Chapter 3, Subchapter 15.

10. The Board adopted a Water Quality Control Plan for the San Francisco Bay Basin in April 1975 and this Order implements the water quality objectives stated in that plan.

11. Existing and potential beneficial uses of ground waters near discharger's property include:

    a. Limited domestic supply
    b. Limited agricultural supply
    c. Industrial supply

12. The beneficial uses of Castro Creek and San Pablo Bay are:

    a. Recreation
    b. Fish migration and habitat
    c. Habitat andd resting for waterfowl and migratory birds
    d. Industrial water supply
    e. Esthetic enjoyment
    f. Navigation
    g. Shellfish habitat

13. This project involves the continued operation of a privately owned waste facility with negligible or no expansion of use beyond that previously existing. Consequently, this project will not have a significant effect on the environment based

upon the exemption provided in Section 15101, Title 14, California Administrative Code.

14. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger shall comply with the following at its facility:

A. Waste Discharge Prohibitions

1. The treatment or disposal of waste shall not cause pollution or nuisance as defined in Section 13050(m) of the California Water Code.

2. The discharge of any waste from the facility to surface or ground waters of the State is prohibited except for discharges to surface waters from process areas which are regulated by an NPDES permit.

3. Waste material or any of its components shall not be deposited on the ground surface outside of the waste disposal areas.

B. Waste Disposal Specifications

1. Disposal areas shall be protected to prevent any washout or erosion of wastes or covering material, or from any threat of inundation, which could occur as a result of floods having a predicted frequency of once in 100 years.

2. The exterior faces of dikes shall be protected from erosion and raveling to maintain the effectiveness of the barrier.

3. The discharger shall take remedial action to abate the effects of any wastes which are discharged at this facility in violation of these requirements.

4. Any water at the pond site which has contacted waste materials shall be contained at the site.

5. All ponds shall maintain a minimum freeboard of two feet at all times. This minimum may be modified by the Board based upon a water balance study which demonstrates that minimum freeboards of less than two feet will not result in pond overflows during peak rainfall periods.

6. Surface drainage from tributary areas and subsurface flow from external site sources shall not contact or percolate through group 1 or 2 wastes on the site except for contained contaminated storm water runoff from areas defined in Finding 4.

7. Vertical and lateral hydraulic continuity with ground waters shall be prevented by the presence of a natural clay barrier of at least 5 feet in thickness and a permeability of 1 x 10^{-6} cm/sec or less, or its equivalent, on the bottom and sides of the disposal site. Since natural conditions to provide lateral containment does not exist, an artificial barrier as described in Finding 6 may be constructed to meet the above specifications.

8. A contingency plan acceptable to the Executive Officer shall be submitted indicating methods of containment and clean up of waste in the event of dike failure resulting from the maximum credible earthquake or other occurrences or excessive rainfall. The plan shall also address facility operations in the event of a labor dispute.

9. The discharge into areas A, B, C and D shall be limited to process wastes produced at the facility and listed in the operation plans. This order does not limit the use of specific ponds to specific uses as described in Finding 4; however, any modification concerning the amount and nature of the wastes discharged to the site shall be approved by the Board.

C. Provisions

1. In accordance with Prohibition A.2 and Specification B.4 the discharger is required to comply with the following schedule for the investigation and possible remedial action if off-site contamination of surface and/or ground water is determined to exist as described in Finding 8:

   a. Submit by March 1, 1982 a proposal for investigation and date for submittal of report both of which are acceptable to the Executive Officer.

   b. Submit report on investigation, and, if needed, a time schedule acceptable to the Executive Officer for submittal of remedial action plan. This report and time schedule shall be submitted by a date which will be established based on the submittal required in C.1.a above.

2. The discharger shall comply with the liquid balance submitted on September 4, 1981 during the 1981-82 winter season in order to maintain compliance with Specification B.5. The discharger shall submit by June 1, 1982 a liquid balance or site management plan to be followed during future winter

seasons to assure compliance with Specification B.5. This plan must be acceptable to and will be approved by the Executive Officer and shall address: waste inflow; maximum seasonal rainfall; maximum rainfall event; and varied evaporation rates due to differing rainfall seasons and waste compositions.

3. Compliance with Prohibition A.2 and Specifications B.4 and B.7 shall be achieved according to the following schedule:

a) Aspemix wall:

Task	Completion Date
(1) Submit plans & specifications	by April 1, 1982
(2) Submit status report	by July 1, 1982
(3) Submit status report	by September 1, 1982
(4) Achieve full compliance	by October 1, 1982
(5) Submit a report signed by a registered engineer inidicating that the facilities were constructed according to the plans & specifications	by November 15, 1982

b) Modified clay liner:

(1) Submit proposal for investigation of existing clay liner	by March 1, 1982
(2) Report findings of investigation	by May 1, 1982
(3) Complete remedial measures (if needed)	by October 1, 1982
(4) If remedial measures are needed, submit a report signed by a registered engineer indicating that the facilities were constructed according to plans and specifications	by November 15, 1982

4. The discharger shall comply with Specification B.8 by June 1, 1982 and shall update the report or indicate that the contingency plan is still applicable by June 1, annually.

5. The discharger shall comply with all portions of this Order except Prohibition A.2 and Specifications B.4, B.7 and B.8 immediately upon adoption of this Order. The discharger

shall take all reasonable actions necessary to minimize violation of Prohibition A.2 and Specification B.4 until full compliance is achieved.

6. The discharger shall submit a site closure plan to the Board by June 1, 1983. This plan shall conform to Sections 2553.1 and 2553.2 of the California Administrative Code, Title 23, Chapter 3, Subchapter 15. The closure plan shall be updated by June 1 annually.

7. The dischargers shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977 except Standard Provision Nos. 4, 5, 9, 10 and 16.

8. The discharger shall provide by June 1, 1983 assurances that monies are available in an amount estimated sufficient to ensure the closure and subsequent maintenance and monitoring of the disposal sites in a manner that will not pose an adverse threat to the environment. This report shall be updated by June 1 annually.

9. The discharger shall maintain a copy of this order at the facility so as to be available at all times to operating personnel.

10. The discharger shall file with this Board an operation plan which shall be updated when substantial changes in operations are made and a letter indicating conformance with existing plans by June 1 annually. For the purpose of these requirements, this includes any proposed change in the boundaries, contours or ownership of the disposal site.

11. This Board considers the property owner to have a continuing responsibility for correcting any problems which may arise in the future as a result of this waste discharge or water applied to this property during subsequent use of the land for other purposes.

12. The discharger shall file with the Board technical reports on self-monitoring work performed according to the detailed specifications contained in any Monitoring and Reporting Program which may be directed by the Executive Officer.

13. The discharger shall permit the Regional Board:

    (a) Entry upon premises on which waste is located or in which any required records are kept,

    (b) Access to copy any records required to be kept under terms and conditions of this order,

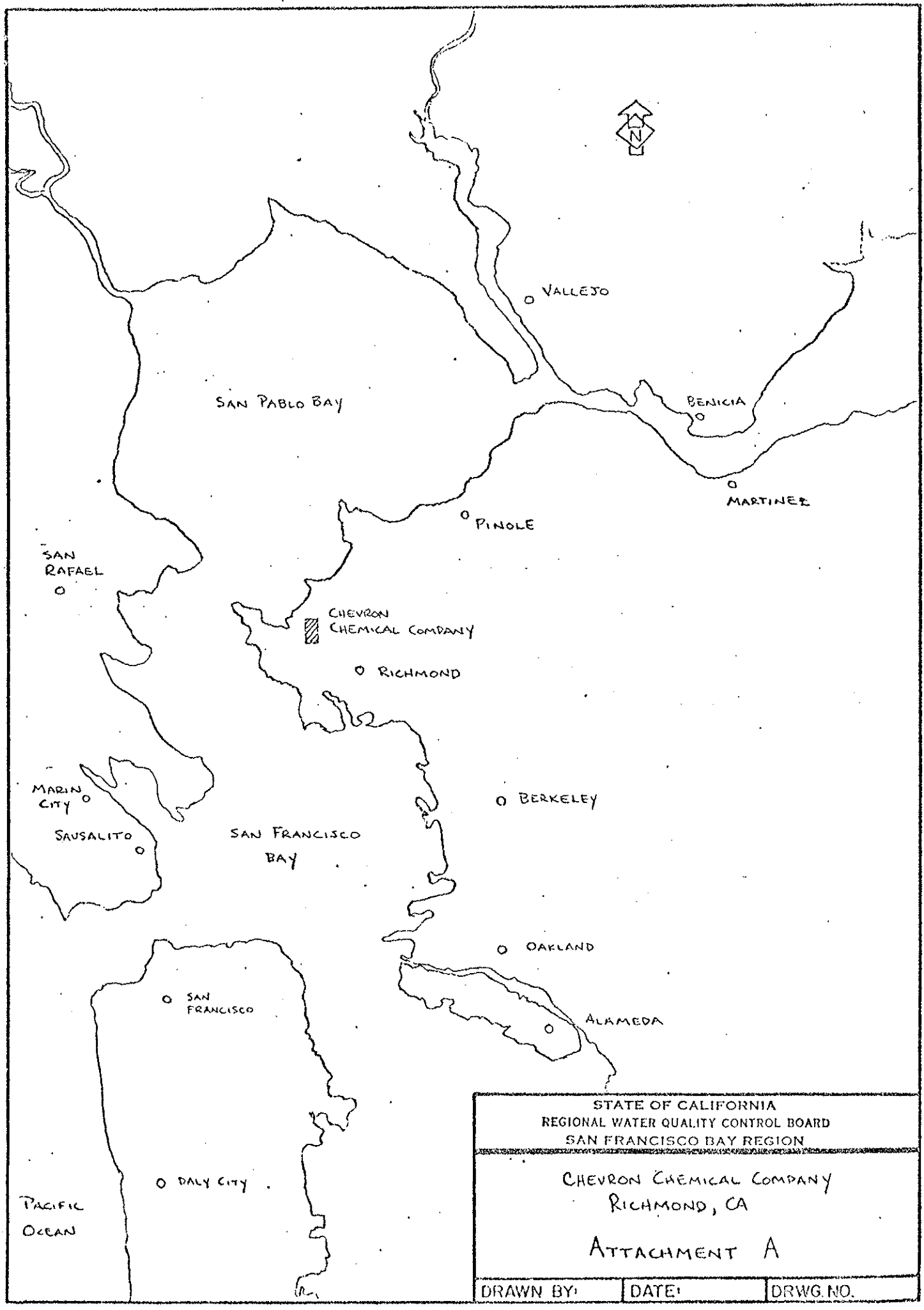
(c) Inspection of monitoring equipment or records, and

(d) Sampling of any discharge.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on December 16, 1981.

FRED H. DIERKER
Executive Officer

Attachment:
Attachment A
Attachment B
Standard Provisions, Reporting
Requirements & Definitions - April 1977

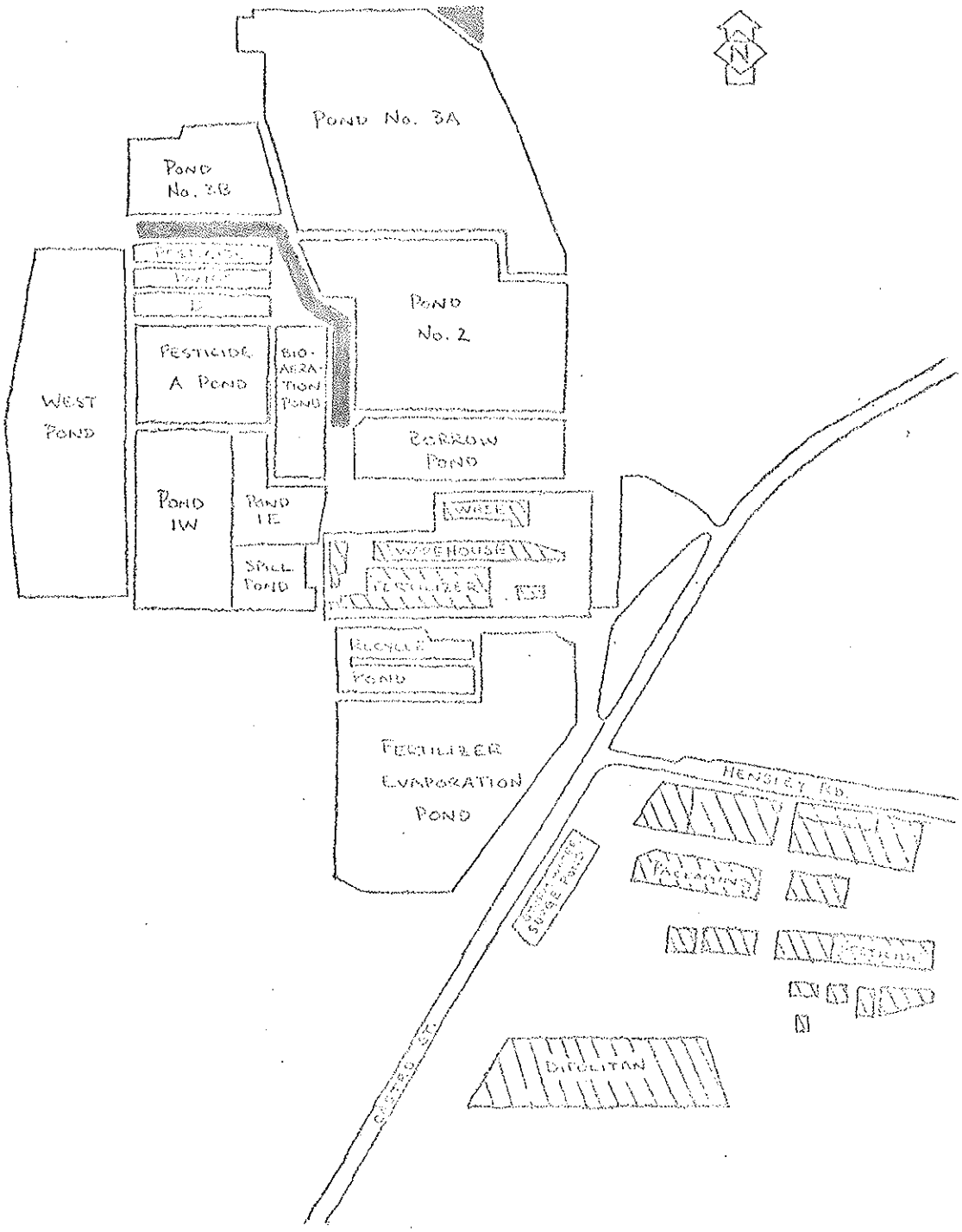


STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

CHEVRON CHEMICAL COMPANY
RICHMOND, CA

ATTACHMENT A

DRAWN BY:	DATE:	DRWG NO.



MANUFACTURING, PACKAGING, OFFICE SPACE

SOLID WASTE

PONDS

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

CHEVRON CHEMICAL COMPANY
RICHMOND, CA

ATTACHMENT B

DRAWN BY:	DATE:	DRWG. NO.